

ELECTION

Applicant elects, with traverse, what the Examiner has characterized as “Invention I”, deemed drawn to an MRI apparatus, and corresponding to claims 1-8.

REMARKS

The Examiner has identified two inventions in the pending claims. The Examiner’s classification of the inventions include Group I consisting of claims 1-8 drawn to an MR apparatus and classified by the Examiner in class 324, subclass 312, and Group II consisting of claims 9-20 drawn to a method of MR imaging and a computer readable storage medium and classified by the Examiner in class 324, subclass 309.

The Examiner concluded that groups I and II are distinct because they are related as process and apparatus for its practice under MPEP § 806.05(e), which states that a “[p]rocess and apparatus for its practice can be shown to be distinct inventions, if . . . the apparatus as claimed can be used to practice another * materially different process.” MPEP § 806.05(e) further states that “[t]he burden is on the examiner to provide reasonable examples that recite material differences.” The Examiner stated that “the MRI apparatus can be used to practice another materially different process such as a method of MR imaging wherein the flip angle is determined without the use of a maximum echo amplitude equal to a target/desired amplitude.” *Office Action, Jan. 18, 2006, p. 2.* However, the Examiner’s example fails to provide a reasonable example that recites a material difference.

Specifically, claim 9 calls for, in part, determining a target amplitude for a majority of echoes of the multi-echo acquisition and determining a flip angle for each data acquisition pulse of the multi-echo acquisition to acquire MR data such that, for the majority of the echoes of the multi-echo acquisition, a maximum echo amplitude is substantially equal to the target amplitude. Claim 15 calls for, in part, a computer to determine a desired maximum amplitude for a plurality of echoes of the multi-echo acquisition for a user-prescribed MR scan from the target amplitude versus echo train time relationship, determine a flip angle for each data acquisition pulse of the prescribed MR scan such that the plurality of echoes has a maximum amplitude substantially equal to the desired maximum amplitude. The Examiner’s removal of the maximum echo amplitude to be substantially equal to the target/desired amplitude is not materially from the processes of claims 9 and 15. That is, with the maximum echo amplitude element removed, claims 9 and 15 still call for, in part, a target/desired amplitude is determined for a majority/plurality of echoes of a multi-echo acquisition and a flip angle for each data acquisition pulse is determined. For the computer of claim 1 to be programmed to determine, in real-time, a

respective flip angle for each data acquisition pulse of a pulse sequence for multi-echo acquisition of MR data matched to a given target tissue and a given scan prescription to reduce ringing artifacts from amplitude decay of the multi-echo acquisition, each echo amplitude will be matched to the target/desired amplitude. As such, even if the maximum echo amplitude element is removed from the processes of claims 9 and 15, the remaining process elements call for a process not materially different therefrom.

Additionally, the Examiner required an election of species if the invention of group II was elected. Since Applicant did not elect group II, an election as required by the Examiner is not required. However, Applicant wishes to identify some errors associated with the Examiner's species restriction requirement.

As stated in MPEP § 806.04(e), "Claims are definitions of inventions." Further, "[c]laims are never species." *Id.* However, the Examiner identified the "species" as the species of claims 9-14 and the species of claims 15-20. *Office Action, supra at 2.* Since claims are never species, the Examiner's identification that claims 9-14 and 15-20 as species is incorrect and cannot be maintained.

MPEP § 809.02(a) also requires that reasons be provided "why the species are independent or distinct." The Examiner failed to provide a reason why the two identified claim sets are independent or distinct. The Examiner stated that each claim set is drawn to a particular element of a respective dependent claim, i.e., claims 13 and 18; however, no reason has been provided how subject matter to which the "species" are drawn to is independent or distinct.

As such, the Examiner failed to satisfy the burden required in making a species restriction requirement.

For all these reasons, Applicant respectfully requests rejoinder of all claims, of each group. The Examiner is invited to call the undersigned to discuss this Election or any other matters regarding this application to further prosecution.

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